

#### ABSTRACT

Described herein are medical devices which are configured for implantation or insertion into a subject, preferably a mammalian subject. The medical devices contain one or more multilayer regions, which contain: (a) one or more (typically a plurality of) charged nanoparticle layers and (b) one or more (typically a plurality of) charged polyelectrolyte layers. Such multilayers have a number of desirable attributes, including high strength, non-compliance, and flexibility. Also described herein are methods of making such devices.